CLAIMS:

1. A wire bonding method in which a capillary that holds a wire which passes through said capillary is moved relative to an object of bonding so that said wire is kinked, and a first bonding point and a second bonding point are caused to be connected by a wire loop, said method including:

a neck portion forming process comprising the steps of

connecting said wire to said first bonding point, and

causing said wire to stand up at said first bonding point,

thus forming a neck portion;

a first kink forming process comprising the steps of

raising said capillary from said neck portion while paying out an amount of wire that corresponds to a length that is obtained by subtracting a length of said neck portion from a total length of said wire loop, and

causing said wire capillary to move toward said second bonding point,

thus forming a first kink in said wire at said second bonding point;

a second kink forming process comprising the steps of

lowering said capillary so that a portion of said wire that corresponds to a length of said standing portion of said wire at said second bonding point is taken into said capillary, and

causing said capillary to move toward an opposite side from said second bonding point,

thus forming a second kink at a tip point of a standing portion of said wire in said second bonding position; and

a loop forming process comprising the steps of

raising said capillary so as to pay out said wire until said first kink is positioned at a tip end of said capillary,

while holding said wire in this state, moving said capillary to said second bonding point, and

connecting said wire to said second bonding point at said first kink of said wire,

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thus forming a wire loop.

2. A wire bonding apparatus comprising:

a capillary that allows a wire to pass therethrough and holds said wire;

a carrying stand that holds an object of bonding;

a moving mechanism that causes said capillary to move in relative terms with respect to said carrying stand; and

a loop formation control means that controls a relative movement of said capillary and a holding of said wire and that forms and connects a wire loop between a first bonding point and a second bonding point of said object of bonding;

wherein said loop formation control means executes

a neck portion forming routine comprising the steps of

connecting said wire to said first bonding point, and

causing said wire to stand up at said first bonding point,

thus forming a neck portion;

a first kink forming routine comprising the steps of

raising said capillary from said neck portion while paying out an amount of wire that corresponds to a length that is obtained by subtracting a length of said neck portion from a total length of said wire loop, and

causing said wire capillary to move toward said second bonding point,

thus forming a first kink in said wire at said second bonding point;

a second kink forming routine comprising the steps of

lowering said capillary so that a portion of said wire that corresponds to a length of said standing portion of said wire at said second bonding point is taken into said capillary, and

causing said capillary to move toward an opposite side from said second bonding point,

thus forming a second kink at a tip point of a standing portion of said wire in said second bonding position; and

a loop forming routine comprising the steps of

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raising said capillary so as to pay out said wire until said first kink is positioned at a tip end of said capillary,

while holding said wire in this state, moving said capillary to said second bonding point, and

connecting said wire to said second bonding point at said first kink of said wire,

thus forming a wire loop.


3. A wire bonding program that controls an operation of a wire bonding apparatus which is comprised of:

a capillary that allows a wire to pass therethrough and holds said wire;

a carrying stand that holds an object of bonding;

a moving mechanism that causes said capillary to move in relative terms with respect to said carrying stand; and

a loop formation control means that controls a relative movement of said capillary and a holding of said wire and that forms and connects a wire loop between a first bonding point and a second bonding point of said object of bonding;

wherein said program renders said loop formation control means to execute:

a neck portion forming routine comprising the steps of

connecting said wire to said first bonding point, and

causing said wire to stand up at said first bonding point,

thus forming a neck portion;

a first kink forming routine comprising the steps of

raising said capillary from said neck portion while paying out an amount of wire that corresponds to a length that is obtained by subtracting a length of said neck portion from a total length of said wire loop, and

causing said wire capillary to move toward said second bonding point,

thus forming a first kink in said wire at said second bonding point;

a second kink forming routine comprising the steps of

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lowering said capillary so that a portion of said wire that corresponds to a length of said standing portion of said wire at said second bonding point is taken into said capillary, and

causing said capillary to move toward an opposite side from said second bonding point,

thus forming a second kink at a tip point of a standing portion of said wire in said second bonding position; and

a loop forming routine comprising the steps of

raising said capillary so as to pay out said wire until said first kink is positioned at a tip end of said capillary,

while holding said wire in this state, moving said capillary to said second bonding point, and

connecting said wire to said second bonding point at said first kink of said wire,

thus forming a wire loop.